

Remarks

Claims 1-22 were filed in this application and are currently pending. In the first office action, the Examiner rejected claims 1, 7-12, 15 and 17-21 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,051,945, issued to Furukawa (hereinafter "Furukawa"). Additionally, the Examiner rejected claims 2-6, 13, 14, 16 and 22 under 35 U.S.C. §103 as being unpatentable over Furukawa in view of U.S. Patent No. 6,0208,101 issued to Seeberger et al. (hereinafter "Seeberger").

Applicant cancels claims 2, 10, 16 and 19 and amends claims 1, 3-4, 11-13, 15 and 20-22 in view of the Examiner's office action. Further, Applicant adds new claims 23 and 24 and believes that the application, as amended, is in condition for allowance. Reconsideration and reexamination of the application as amended is respectfully requested.

A. Rejections Under 35 U.S.C. §102(b)

The Examiner rejected claims 1, 7-12, 15 and 17-21 under 35 U.S.C. §102(b) as being anticipated by Furukawa. Applicant has amended independent claims 1 and 15 to incorporate the limitations of claims 2 and 16, respectfully, to distinguish those claims over the Furukawa reference. MPEP §2131 recites:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the ... claim.

(Emphasis added)

The Furukawa reference fails to disclose the identical invention as that claimed by the Applicant. As the Examiner appreciates in his comments in the above-identified office action, the Furukawa reference fails to disclose a coding arrangement provided on the window nor does it disclose a system or method for detecting the coding arrangement to determine the position of a window within a window frame.

By way of this amendment, Applicant amends claims 1 and 15 to distinguish over Furukawa by claiming a coding arrangement provided on the window which is detected by at least one sensing device. The at least one sensing device generates an output representative of the detected position of coding indicia disposed on the window to allow the controller to compare the output signals against predetermined values to determine whether obstruction exists between the window and window frame.

Since the Furukawa reference does not disclose the identical invention as set forth in the amended claims, Furukawa does not anticipate either independent claims 1 or 15 of the application. Further, claims 7-9, depending from independent claim 1 and claims 17-18, depending from independent claim 15, are additionally believed to be in condition for allowance as they depend from now allowable subject matter. Applicant respectfully requests favorable reconsideration of these claims as amended.

Applicant adds new independent claim 23, from which rejected claims 10-12 depend, and new independent claim 24, from which rejected claims 20-21 depend. The Examiner's assertion that the Furukawa encoder anticipates the Applicant's claimed encoder is erroneous. Furukawa teaches that an annular magnet mounted on the rotary shaft of the motor. Furukawa uses a Hall sensor to monitor the rotation of the magnet on the motor shaft.

Applicant explicitly claims that a rotary member is disposed adjacent to and engages a surface of the window to monitor the travel of the window through the window frame. The encoder monitors the rotary member and generates an output signal representative of the window position. Thus, the Furukawa reference does not teach the identical invention and clearly does not anticipate Applicant's claimed invention. As such, Applicant respectfully submits that claims 10-12, 20-21 and 23-24 are in condition for allowance.

B. Rejections under 35 U.S.C. §103(a)

The Examiner rejected claims 2-6, 13, 14, 16 and 22 under 35 U.S.C. §103(a) as being unpatentable over Furukawa in view of Seeberger. Further, the Examiner takes

official notice with respect to photo-interrupters as being well known in the art for detecting window position and outputting a window obstruction or position signal to combine with the Furukawa and Seeberger references to reject Applicant's claims as presented.

The Examiner's proposed combination of references does not teach nor suggest all of the claim limitations as set forth in claims 2-6, 13, 14, 16 and 22. MPEP §2143.01 details the basic requirements necessary to establish a prima facie case of obviousness.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either if the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is clear from a reading of both the Furukawa and Seeberger references that neither contains a suggestion or motivation to combine the references in the manner suggested by the Examiner. "The level of skill in the art cannot be relied upon to provide the suggestion to combine references." See MPEP §2143.01 citing all cite *Al-Site Corp. v. VSI Int'l Inc.*, 174 F3rd 1308, 50 USPQ 2d 1161(Fed Cir. 1999).

The Seeberger reference discloses various mechanical arrangements for detecting excess force generated during the lifting of a window in a vehicle. A controller detects deformation of elastic damping elements during the lifting process of the window and compares the output readings against normalized values to determine whether excess force is generated during the lifting process. The Examiner specifically points out that Figures 3 and 4 of the Seeberger patent discloses coding detection for measuring position of the window.

This type of deformable elastic damping elements for detecting window position is non-analogous art to Applicant's claimed invention. Seeberger fails to teach the coding arrangement and method of detecting indicia provided on the coding arrangement as is claimed by Applicant. Further, as discussed above, the Examiner admits in his response that Furukawa fails to teach a coding arrangement for detecting window position.

Applicant's anti-pinch system and method specifically recites that a sensing device detects a coding arrangement on the window and generates an output representative of the detected position of indicia on the window to convey the position of the window. Neither the Furukawa nor the Seeberger references, individually or in combination, explicitly teach or disclose this coding detection or coding arrangement as claimed by Applicant.

With respect to claims 13 and 22, the Examiner takes official notice of photo-interrupters as being well known in the art for detecting window position and outputting a window obstruction or position signal. Under MPEP 2144.03, Applicant traverses this assertion by the Examiner and respectfully requests citation of a reference in support of his or her position which would demonstrate a photo-interrupter disposed adjacent a vehicle window which monitors the travel of the window through the window frame which would allow the Examiner to combine the Furukawa and Seeberger references to reject Applicant's claims as presented.

Applicant believes that claims 2-6, 13, 14, 16 and 22 are not obvious in view of the references combined by the Examiner. As such, Applicant respectfully requests reconsideration of the claims as presented. Further, in view of the amendments made to independent claims 1 and 15 and new independent claims 23 and 24, Applicant respectfully suggests that the claims, as amended, are in condition for allowance as being dependent upon allowable subject matter.


C. Conclusion

Applicant has made a genuine effort to respond to each and everyone of the Examiner's rejections to advance the prosecution of this case. Applicant believes all formal and substantive requirements for patentability have been met and that this case is in condition for allowance, which action is respectfully requested.

A check in the amount of \$194.00 is enclosed to cover the petition fee for the \$110.00 one month extension of time and the additional claims filing fee of \$84.00.

Respectfully submitted,

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Attachment

**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In The Claims**

1. (Amended) A window position detection and anti-pinch system for a vehicle door assembly having a window adjustably positionable in a window frame by a reversible motor operatively connected to the window, the system comprising:

at least one sensing device disposed adjacent the window for detecting the position of the window relative to the window frame, the at least one sensing device detecting a coding arrangement provided on the window and generating an output signal representative of the detected position of the window; and

a controller responsive to the output of the at least one sensing device for comparing the output signal against predetermined values to determine whether an obstruction exists between the window and window frame.

3. (Amended) The window position detection and anti-pinch system of claim [2] 1 wherein the at least one sensing device comprises a first sensing device having a sensor detecting a coding arrangement located on the window and a transmitter generating an output representative of the detected position of the indicia on the window.

4. (Amended) The window position detection and anti-pinch system of claim [2] 1 wherein the coding arrangement comprises a plurality of indicia uniformly spaced and correlated to convey the vertical position of the window in the window frame to the sensor.

11. (Amended) The window position detection and anti-pinch system of claim [10] 23 wherein the at least one sensing device comprises an encoder having a plurality of electrical contacts provided on an outer periphery of the encoder and at least one electrical contact in communication with the controller for monitoring pulses generated by the rotation of the plurality of contacts on the encoder upon the movement of the window.

12. (Amended) The window position detection and anti-pinch system of claim [10] 23 wherein the at least one sensing device comprises an encoder having a multi-

poled magnet centrally disposed in the encoder and a receiver in communication with the controller comprising a Hall effect sensor disposed radially outwardly of the magnet for monitoring pulses generated by the rotation of the magnet on the encoder.

13. (Amended) The window position detection and anti-pinch system of claim [10] 23 wherein the at least one sensing device comprises an encoder having a plurality of intermittent holes positioned about the periphery of the encoder allowing an electromagnetic signal to pass through and a photointerrupter in communication with the controller positioned adjacent the encoder for monitoring pulses generated by the interruption of the electromagnetic signal by the rotation of the encoder based on the change in position of the window relative to the window frame.

15. (Amended) A method of detecting the position of a window relative to a window frame of a vehicle door assembly, the method comprising:

positioning at least one sensing device adjacent the window [and generating an output signal representative of the position of the window relative to the window frame];

detecting the position of the window based on a coding arrangement located on the window, wherein the coding arrangement comprises a plurality of indicia uniformly spaced and correlated to convey the vertical position of the window relative to the window frame;

generating an output signal representative of the position of the window relative to the window frame based on the coding arrangement on the window;

comparing the output signal generated by the at least one sensing device against predetermined values to determine whether an obstruction exists between the window and window frame; and

generating a control signal to stop and reverse the travel of the window upon detection of an obstruction between the window and window frame.

20. (Amended) The method of claim [19] 24 wherein providing an encoder comprises providing an encoder having a plurality of electrical contacts provided on an outer periphery of the encoder and at least one electrical contact in communication with the

controller for monitoring pulses generated by the rotation of the plurality of contacts translated from a change in position of the window relative to the window frame.

21. (Amended) The method of claim [19] 24 wherein providing an encoder comprises providing an encoder having a multi-poled magnet centrally disposed in the encoder and a receiver in communication with the controller comprising a Hall effect sensor disposed radially outwardly of the magnet for monitoring pulses generated by the rotation of the magnet on the encoder translated from a change in position of the window relative to the window frame.

22. (Amended) The method of claim [19] 24 wherein providing an encoder comprises providing an encoder having a plurality of intermittent holes positioned about the periphery of the encoder allowing an electromagnetic signal to pass through and a photointerrupter in communication with the controller positioned adjacent the encoder for monitoring pulses generated by the interruption of the electromagnetic signal by the rotation of the encoder based on the change in position of the window relative to the window frame.